

REMARKS

1. Examiner rejected claims 1-7, 9, 11-13, 15 and 18 under 35 USC 103(a) as being unpatentable over Katsumata '149 (US 5,078,149).
2. Claims 1 is patentable over Katsumata by recitation of the following novel and nonobvious feature:

“said proximal end being open and shaped to allow the transducer to transverse across an intended scan path within said reservoir”

Applicant respectfully disagrees that Katsumata discloses this feature. Examiner cited col. 11, lines 24-40 as disclosing this feature. This passage does indicate that the elastic acoustic medium may be designed to protrude past the leading end of the immobilizing member. However, the presence of medium past the edge does not equate to a configuration that allows for a transducer to move within a reservoir. The presence of this portion of the medium is designed to help mechanically secure the gel within the outer housing. In fact, Katsumata takes steps to specifically created a fixed relationship between the two during use.

“... an immobilizing member 73 capable of causing this elastic acoustic medium 71 to be attached fast to and detached from an ultrasonic wave-transmitting and -receiving surface 72a of an ultrasonic probe 72.” (column 9, 64-68)

“... fixing an acoustic radiation surface 19 of the probe 18 tightly in the ultrasonic wave propagating member 17, and then manipulating the probe while keeping a contact surface 21 between the ultrasonic wave propagating member 17 and a subject 20 under test. The use of the ultrasonic coupler constructed as described above can be readily attained simply by fixing the holder 12 to the probe 18 because the holder 12 and the ultrasonic wave propagating member 17 are integrally joined.” (column 9, lines 4-14)

“An attaching part 73b for the ultrasonic probe 72 is so formed that the interval L between the opposed lateral surfaces is smaller than the width L' of the corresponding ultrasonic probe. The immobilizing member 73, owing to the elasticity thereof, nips the ultrasonic probe 72.” (column 10, lines 37-45)

It would be directly against the teaching of Katsumata to create a configuration that allowed a transducer to move within the holder.

Further, Katsumata uses an aqueous solution of a water-soluble polymeric compound and integrally cross-links it with the holder inside the holder. Katsumata specifically indicates that the compound is solidified to create the ultrasonic wave propagating member. (see column 7, lines 39-45 and column 8, lines 60-68)

Applicant uses a fluid coupling medium within the reservoir. The fluid coupling allows the transducer to move within the reservoir. In Katsumata, this would not be possible since, the compound is solidified.

Katsumata also fails to show or suggest a fluid tight seal around the transducer. As described above the probe of Katsumata is held to the gel by “the attaching part 73b.” Applicant was unable to find mention or suggestion of any fluid tight seal of any type. Applicant has review the section cited by Examiner (column 9, lines 1-10). However, this section makes no mention of a fluid tight seal.

Applicant submits that Katsumata does not disclose or suggest Applicant's claimed configuration. Further, Katsumata actually teaches away from Applicant's claimed configuration.

Therefore, Applicant submits that claim 1 and dependent claims 2-7, 9, 11-13, 15 and 18 are novel and nonobvious over Katsumata. Allowance of these claims is respectfully requested.

3. Regarding claim 3, Applicant respectfully disagrees that Katsumata teaches allowable signal loss of 1 db/mm. While Katsumata describes the attenuation of ultrasonic wave by water content of cross-linked polymer less than 80%, Katsumata does not describe the frequency dependence of the ultrasonic wave attenuation, or the water content of a cross-linked polymer to achieve 1 db/mm or less attenuation for ultrasound in the 50 to 150 MHz range.

Therefore, Applicant submits that claim 3 is patentable in its own right. Allowance of claim 3 is again respectfully requested.

4. Examiner rejected claim 8 under 35 USC 103(a) as being unpatentable over Katsumata '149 (US 5,078,149) in view of Matthews '123 (US 3,939,123).
5. Applicant submits that additional information regarding material compositions does not add or suggest any of the limitations that are missing from the Katsumata reference as discussed above. Therefore, the combination of Katsumata and Matthews does not make obvious Applicant's claimed invention.

Further, while Matthews describes polyisocyanate terminated polyols to form hydrogels, neither Matthews '123 nor Katsumata '149 teaches whether such copolymers containing alkyleneoxy block segments would have low ultrasound attenuation properties as compared to the water soluble polymers described by Katsumata. As described in Applicant's specification, polyHEMA, a water soluble acrylic polymer as described by Katsumata was found to have a signal loss of 10.62 db/mm at a water content of 60% at an ultrasound frequency of 62MHz. At lower water content of 50% (worse for transmission as taught by Katsumata), the polyurethane hydrogel of our invention demonstrated a superior 12 times lower signal loss of 0.88 db/mm. Clearly ultrasound transmission signal loss at high frequencies is not as simple as just water content of the transmission window.

Therefore, Applicant submits that claim 8 is novel and nonobvious over Katsumata, Matthews and any combination thereof. Allowance of claim 8 is respectfully requested.

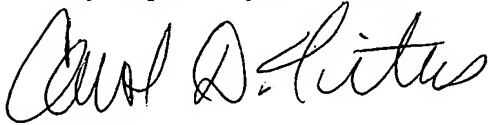
6. Examiner rejected claims 10 and 14 under 35 USC 103(a) as being unpatentable over Katsumata '149 (US 5,078,149) in view of Puech '855 (US 6,837,855).
7. Applicant submits that any additional information regarding distance of focus range and ultrasound frequency does not add or suggest any of the limitations that are missing from the Katsumata reference as discussed above. Therefore, the combination of Katsumata and Puech does not make obvious Applicant's claimed invention.
8. Examiner rejected claim 16 and 17 under 35 USC 103(a) as being unpatentable over Katsumata '149 (US 5,078,149) in view of de Juan et al. '335 (US 2001/0029335).
9. Applicant submits that additional information regarding addition of a surgical instrument does not add or suggest any of the limitations that are missing from the Katsumata reference as discussed above. Therefore, the combination of Katsumata and de Juan does not make obvious Applicant's claimed invention.

CONCLUSION

For all the reasons above, Applicant submits that the claims all define novel subject matter that is nonobvious. Therefore, allowance of these claims is submitted to be proper and is respectfully requested.

Applicant invites the Examiner to contact Applicant's representative as listed below for a telephonic interview if so doing would expedite the prosecution of the application.

Very respectfully submitted,

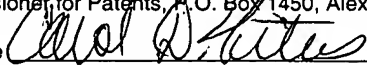


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Date: September 26, 2007